MODE d'EMPLOI
LOGICIEL MERLIN

Cet outil permet de comparer différentes hélices E-Props, sur différents aéronefs et différents moteurs, selon différentes phases de vol : décollage, croisière, à puissance max, etc.

1/ Choisir une première configuration [Aéronef – Moteur – Hélice cas n° 1] :
Aircraft-Engine-Prop case A
- choisir le type d'aéronef : aircraft
- choisir le type de moteur avec le taux de réduction : engine
- choisir l'hélice E-Props considérée : propeller
- choisir le calage de cette hélice : pitch

Cliquez sur mettre à jour => UPDATE

Vous pouvez alors voir plusieurs courbes sous les 5 onglets du menu horizontal en haut de la page :
- Traction / Traînée : Thrust Drag
- Puissance max : Full Power
- Croisère : Cruise Level
- Décollage : Take Off
- Rendement hélice : Propeller Efficiency

2/ Vous pouvez alors choisir un deuxième et un troisième cas pour comparer différentes hélices, ou différentes configurations.
Aircraft-Engine-Prop case B
Puis éventuellement
Aircraft-Engine-Prop case C

Cliquez sur mettre à jour => UPDATE

et analysez les cas que vous avez choisis.

Sur le menu initial (à gauche), vous pouvez :
- choisir les unités en métrique ou en imperial
- voir les paramètres de l'atmosphère standard
- voir la liste des différents aéronefs avec leurs paramètres (données fixes pour le moment)
- voir la liste des différents moteurs avec leurs paramètres (données fixes pour le moment)

=> voir deux exemples avec copies d'écrans dans les pages suivantes

Des questions ? Merci de contacter Jérémie Buiatti => infos@e-props.fr

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INSTRUCTION MANUAL
MERLIN SOFTWARE

This tool allows to compare different E-Props propellers, on different aircraft and engines at take-off, in cruise, at maximum power, etc.

1/ Choose a first configuration : Aircraft-Engine-Prop case A
- choose your type of aircraft
- choose your engine and its reducer ratio
- choose the E-Props propeller
- choose a pitch of this propeller

Click on : UPDATE

You can see several curves, the performances of this propeller on this aircraft equipped with this engine :
- Thrust Drag
- Full Power
- Cruise Level
- Take Off
- Propeller Efficiency

2/ Then you can choose a second configuration in order to compare the two cases Aircraft-Engine-Prop case B :
- choose your type of aircraft
- choose your engine and its reducer ratio
- choose the E-Props propeller
- choose a pitch of this propeller

Click on : UPDATE

You can see several curves for both configurations the performances of the two propellers.
You also can add a third case.

In the initial menu (on the left), you can :
- choose the units in Metric or Imperial
- see the parameters of the standard atmosphere
- see the list of different aircraft, with their parameters (fixed for the moment)
- see the list of different engines with their parameters (fixed for the moment)

=> see 2 examples with screens copies in the following pages

Questions ? Please contact Jérémie Buiatti => infos@e-props.fr

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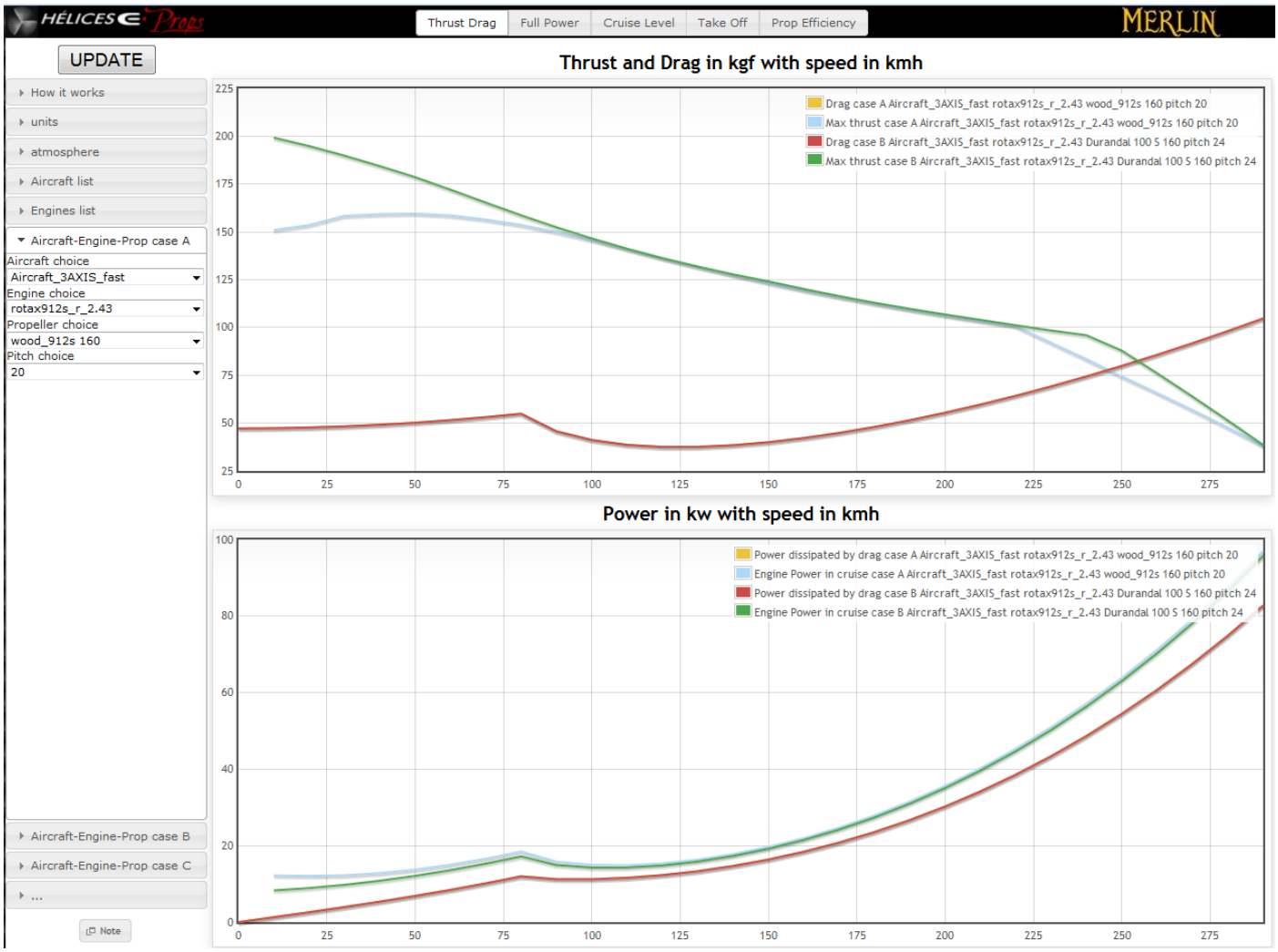
Exemple 1

Example 1

Comparatif d'une hélice E-Props bipale bois avec une E-Props tripale carbone DURANDAL 100 – S sur ULM rapide (type MCR)
Comparison of a wooden 2-blades E-Props with a carbon 3-blades DURANDAL – 100 S on a fast ultralight (as MCR)


Thrust Drag
Full Power
Cruise Level
Take Off
Prop Efficiency
UPDATE
How it works
units
atmosphere
Aircraft list
Engines list
Aircraft-Engine-Prop case A
Aircraft choice
Aircraft_3AXIS_fast
Engine choice
rotax912s_r_2.43
Propeller choice
wood_912s 160
Pitch choice
20
Aircraft-Engine-Prop case B
Aircraft-Engine-Prop case C
...
Note
Thrust and Drag in kgf with speed in kmh
Drag case A Aircraft_3AXIS_fast rotax912s_r_2.43 wood_912s 160 pitch 20
Max thrust case A Aircraft_3AXIS_fast rotax912s_r_2.43 wood_912s 160 pitch 20
Drag case B Aircraft_3AXIS_fast rotax912s_r_2.43 Durandal 100 S 160 pitch 24
Max thrust case B Aircraft_3AXIS_fast rotax912s_r_2.43 Durandal 100 S 160 pitch 24
Power in kw with speed in kmh
Power dissipated by drag case A Aircraft_3AXIS_fast rotax912s_r_2.43 wood_912s 160 pitch 20
Engine Power in cruise case A Aircraft_3AXIS_fast rotax912s_r_2.43 wood_912s 160 pitch 20
Power dissipated by drag case B Aircraft_3AXIS_fast rotax912s_r_2.43 Durandal 100 S 160 pitch 24
Engine Power in cruise case B Aircraft_3AXIS_fast rotax912s_r_2.43 Durandal 100 S 160 pitch 24

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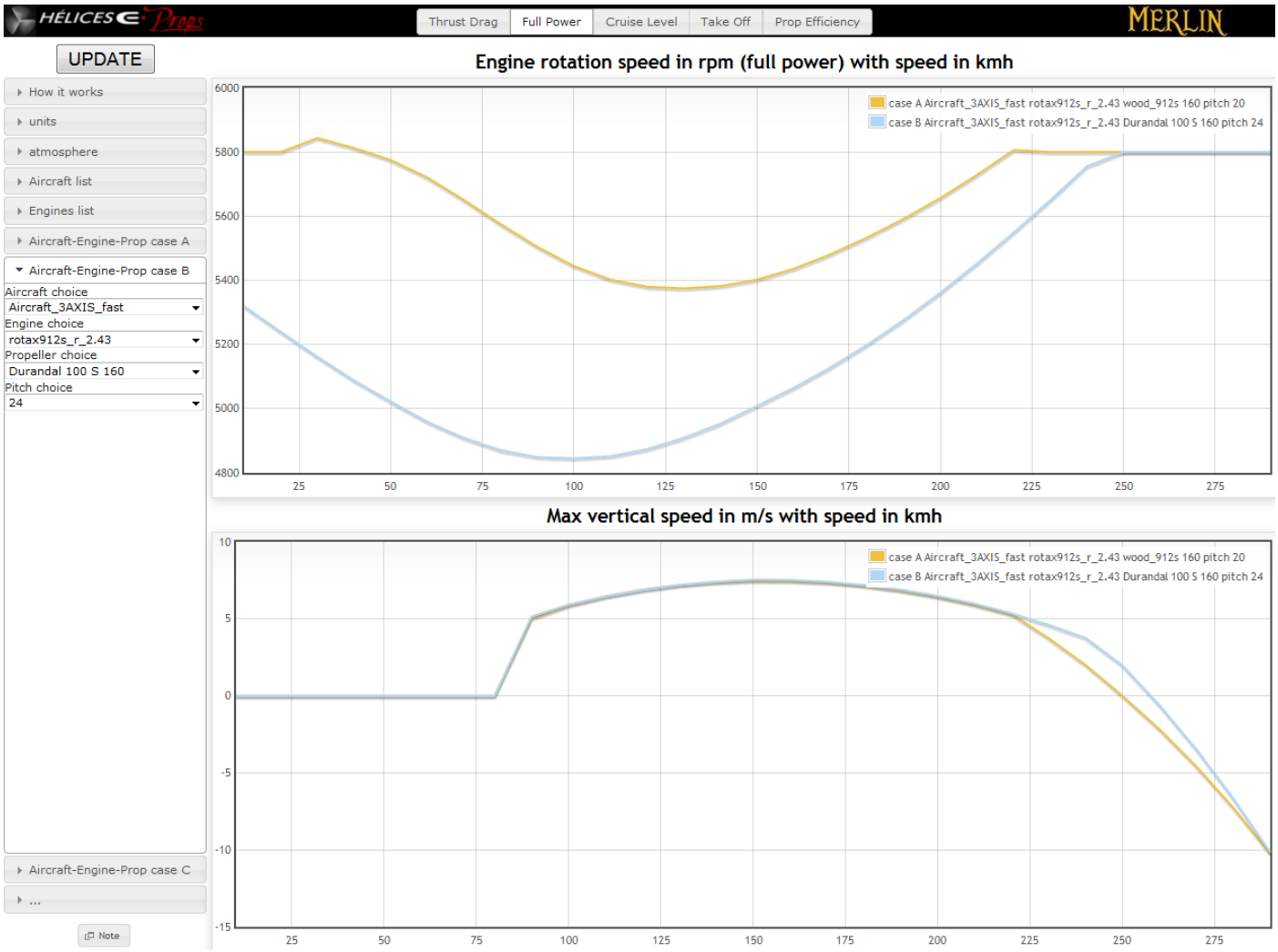

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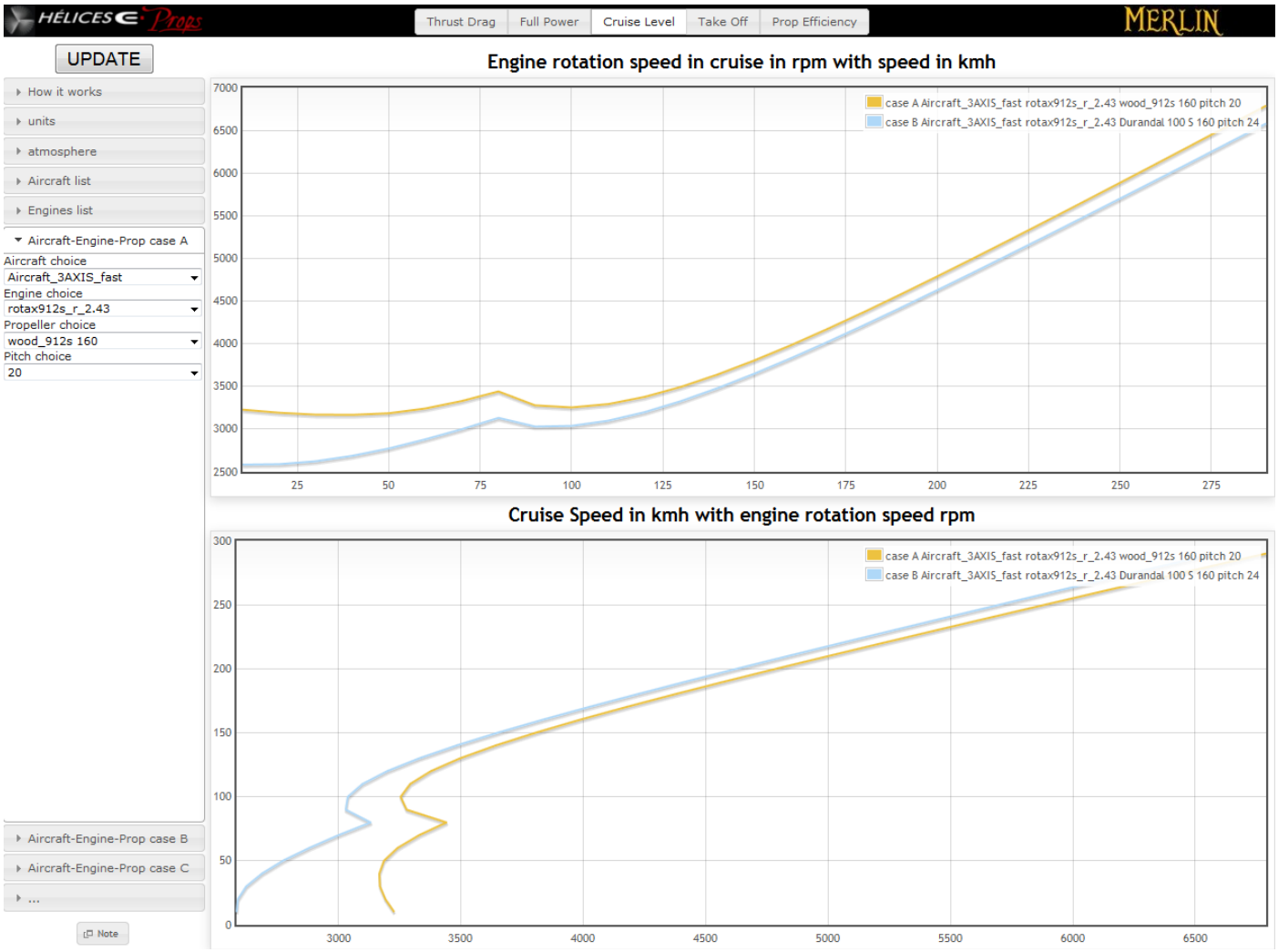

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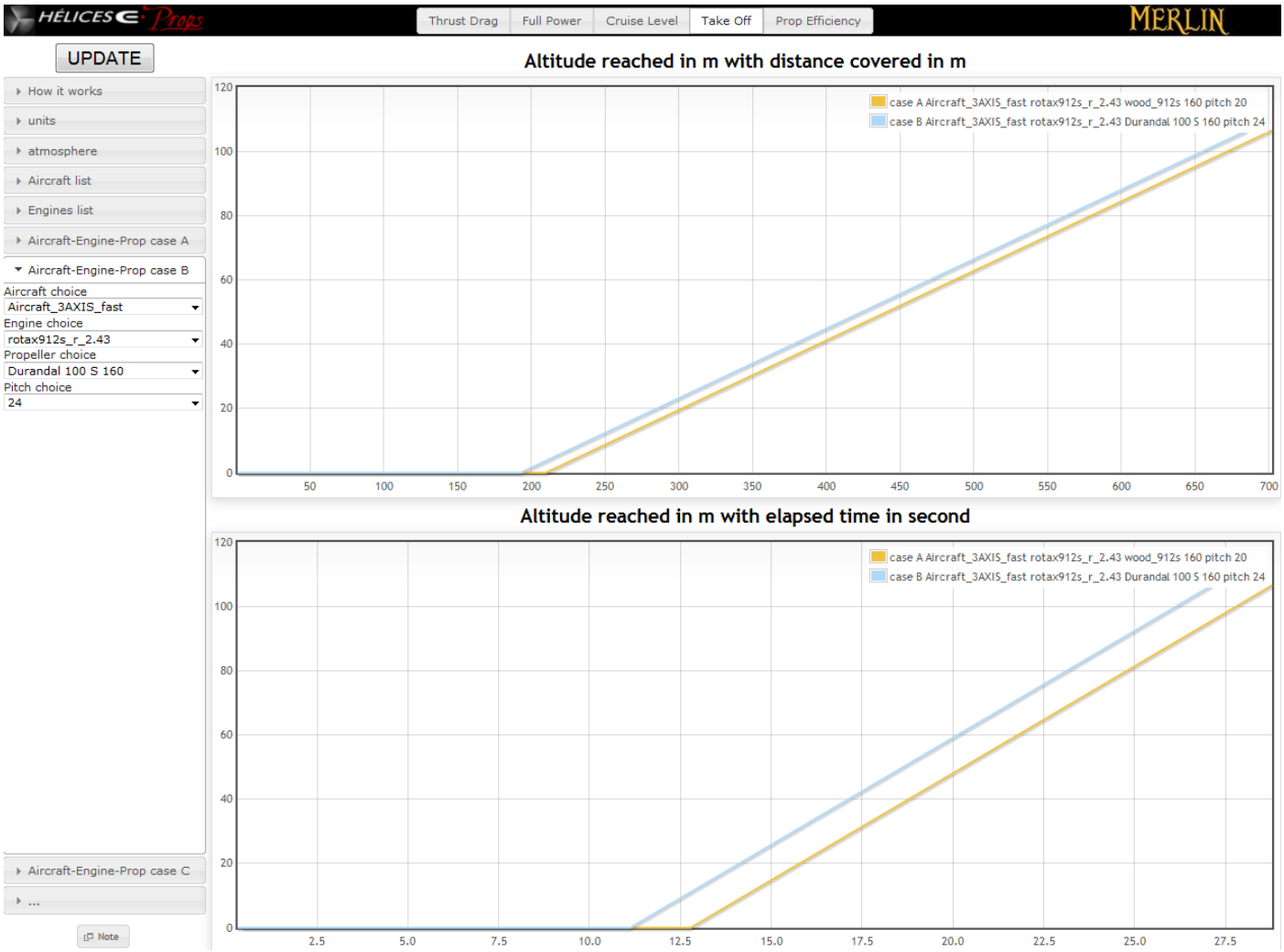

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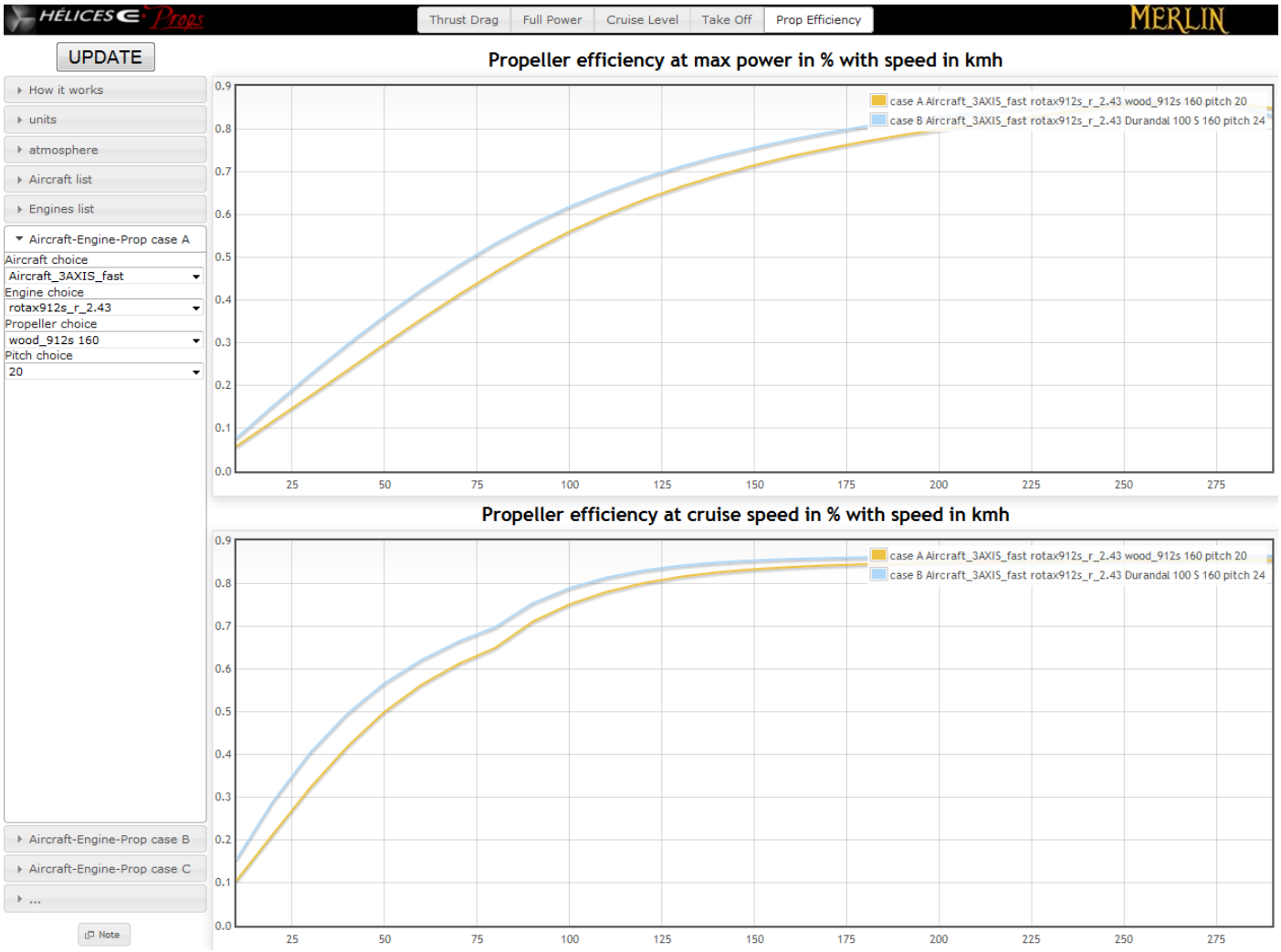

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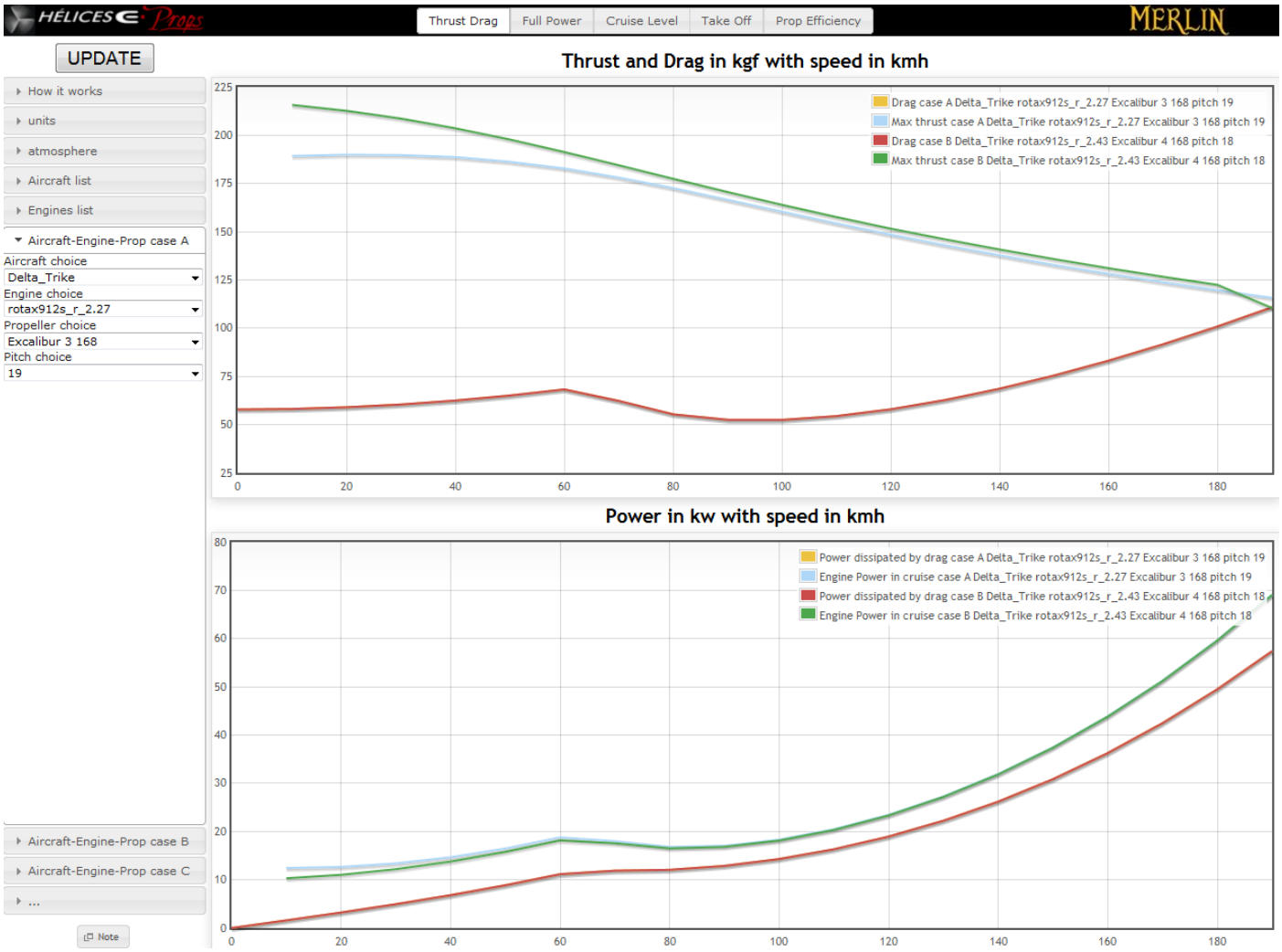
Exemple 2

Example 2

Comparatif d'une hélice E-Props carbone tripale EXCALIBUR - 3 avec une quadripale EXCALIBUR – 4 sur ULM pendulaire
Comparison of a carbon 3-blades E-Props EXCALIBUR – 3 with a 4-blades EXCALIBUR – 4 on a delta trike


HÉLICES E-Props
Thrust Drag
Full Power
Cruise Level
Take Off
Prop Efficiency
MERLIN
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How it works
units
atmosphere
Aircraft list
Engines list
Aircraft-Engine-Prop case A
Aircraft choice
Delta_Trike
Engine choice
rotax912s_r_2.27
Propeller choice
Excalibur 3 168
Pitch choice
19
Aircraft-Engine-Prop case B
Aircraft-Engine-Prop case C
...
Note
Thrust and Drag in kgf with speed in kmh
Drag case A Delta_Trike rotax912s_r_2.27 Excalibur 3 168 pitch 19
Max thrust case A Delta_Trike rotax912s_r_2.27 Excalibur 3 168 pitch 19
Drag case B Delta_Trike rotax912s_r_2.43 Excalibur 4 168 pitch 18
Max thrust case B Delta_Trike rotax912s_r_2.43 Excalibur 4 168 pitch 18
Power in kw with speed in kmh
Power dissipated by drag case A Delta_Trike rotax912s_r_2.27 Excalibur 3 168 pitch 19
Engine Power in cruise case A Delta_Trike rotax912s_r_2.27 Excalibur 3 168 pitch 19
Power dissipated by drag case B Delta_Trike rotax912s_r_2.43 Excalibur 4 168 pitch 18
Engine Power in cruise case B Delta_Trike rotax912s_r_2.43 Excalibur 4 168 pitch 18

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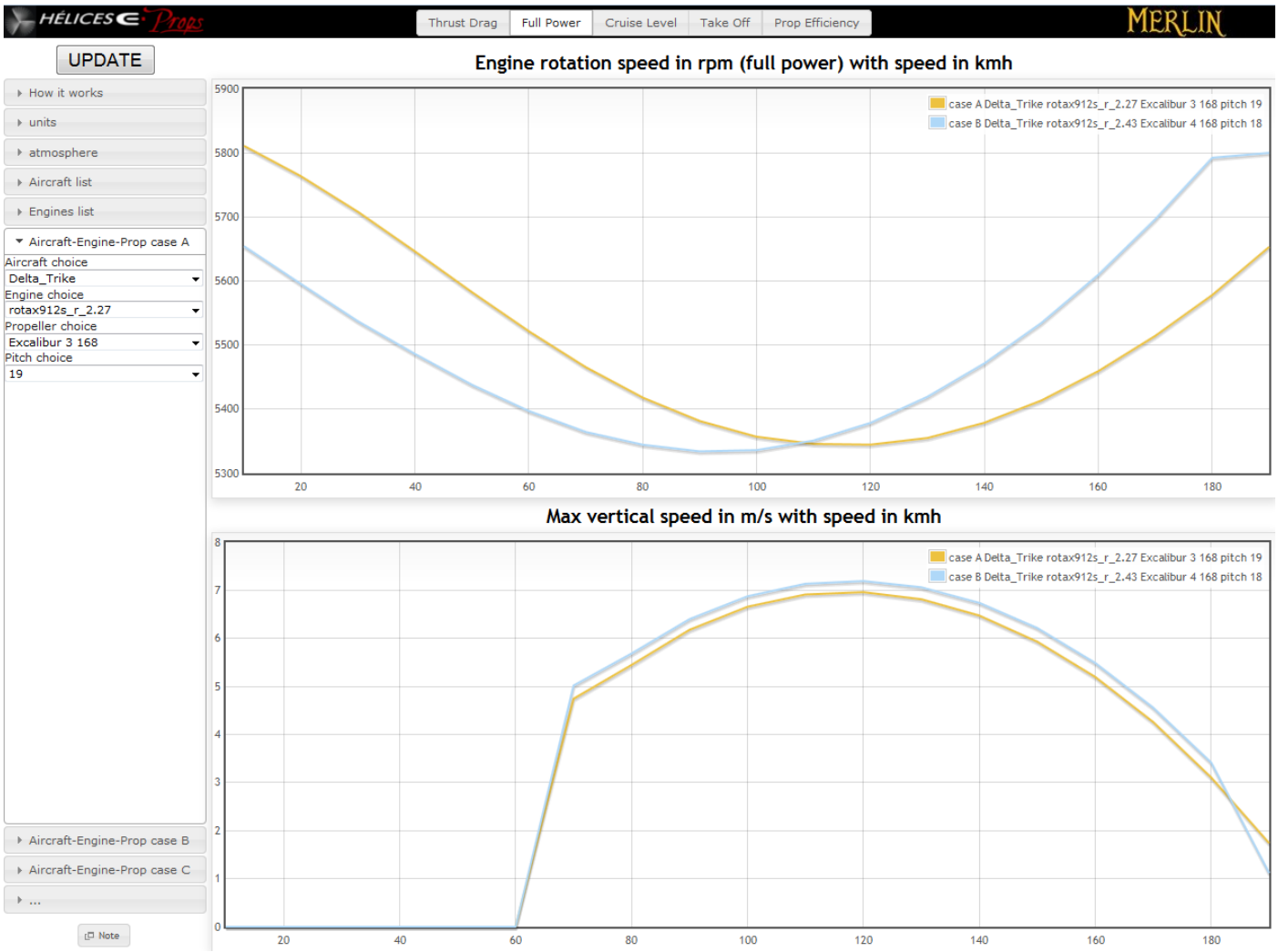

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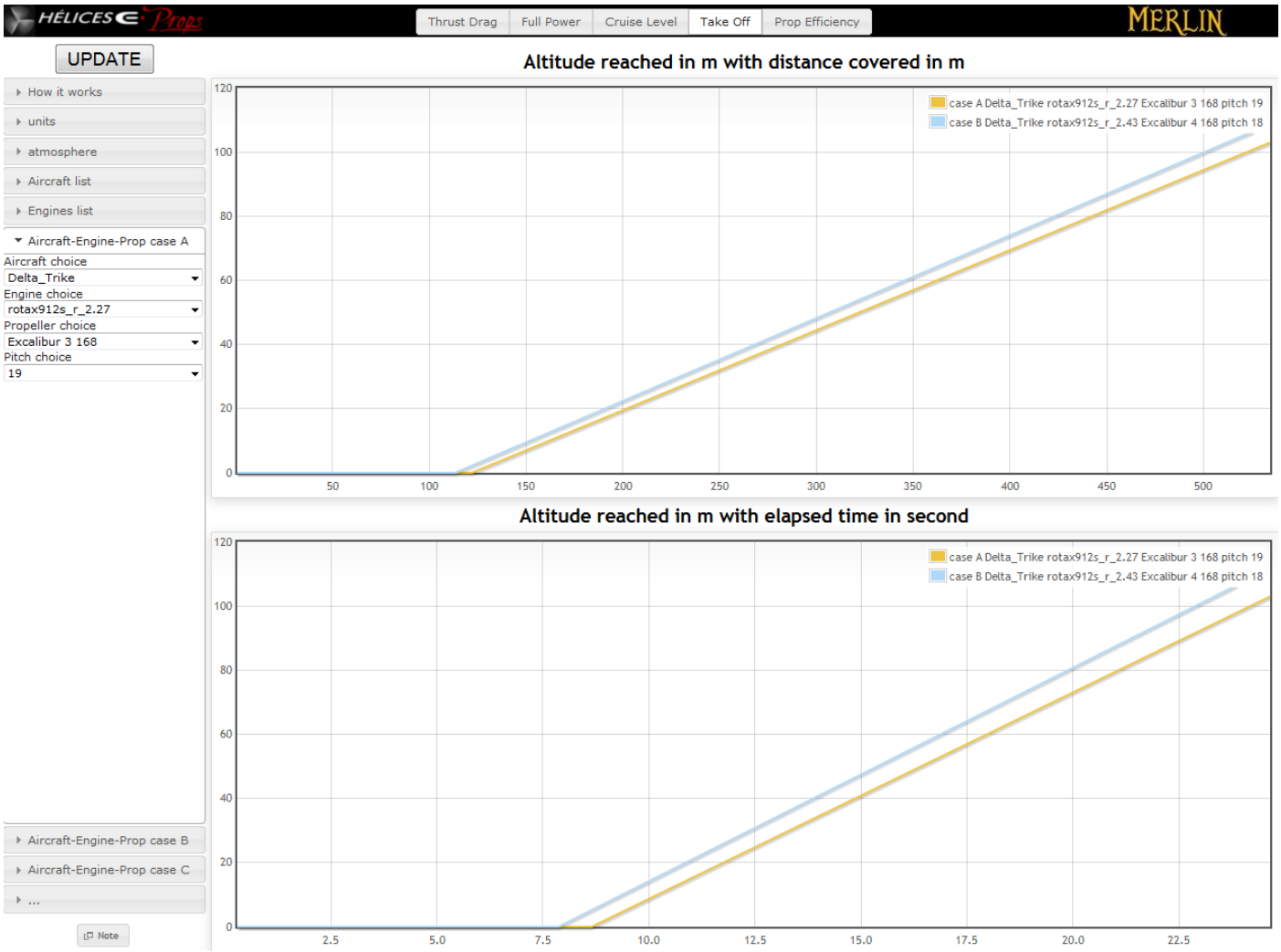

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